UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/786,062	02/28/2001	Horst Muller	112740-178	6464

29177 7590 05/26/2004

BELL, BOYD & LLOYD, LLC
P. O. BOX 1135
CHICAGO, IL 60690-1135

EXAMINER	
PATEL, ASHOKKUMAR B	
ART UNIT	**PAPER NUMBER**
2154	7

DATE MAILED: 05/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/786,062	MULLER, HORST	
	Examiner	Art Unit	
	Ashok B. Patel	2154	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 7-12 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 7-12 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 1.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Application Number 9/786, 062 was filed on 02/28/2001. Claims 7-12 are subject to examination.

Drawings

2. Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "A" has been used to designate both element A and element B. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 7 and 11 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. The omitted structural cooperative relationships are:

Referring to claim 7,

The claim recites " feeds the working signals as protection signals into a respective other part of the ring network", if the network is subdivided into a first part and second part, then how there exists "respective other part".

Referring to claim 11,

The claim recites the subdividing ring network into a first part and a second part; however, the claim fails to provide the reference point for considering the subdivision of the ring network into "a first part and second part." The claim also fails to point out the reference point to deliver the exact location of the central network element. The claim fails to deliver or establish the relationship between "the central network element" and other elements of the claim. The claim also recites " feeding the working signals as protection signals into a respective other part of the ring network", if the network is subdivided into a first part and second part, then how there exists "respective other part". The claim also recites "feeding the working signals into both the first and second parts of the ring network" and "feeds the working signals as protection signals into the respective other part of the ring network", however it fails to provide any mechanism and location of the signal entry that is common to both parts of the ring network causing the simultaneous feeding of the working signals and working signals as protection signals into both the first and second parts of the ring network. The claim recites "feeding the protection signals into the respective other terminating network element of the first and second parts of the ring network", however the claim fails to establish whether the first part and second part by connection share a common terminating

network element or both of these parts have two terminating network elements located at both ends and the other part of the ring network is located in between.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 7-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cadeddu et al. (hereinafter Cadeddu)(US 5, 647, 035) in view Hauris et al. (hereinafter Hauris) (US 5, 517, 498).

Referring to claim 7,

The reference Cadeddu teaches a ring network (Fig. 1), comprising:

a central network element (the reference Cadeddu teaches" at least some of the nodes can comprise signal insertion-extraction devices, col.2, lines 52-53) for feeding in data and for distributing both working signals (Fig.1, element $\lambda 1$) and protection signals (Fig.1, element $\lambda 2$) on different transmission paths (Fig.1, optical carriers 3A and 3B) and in oppositely directed transmission directions (Fig. 1, as shown signals $\lambda 1$ and $\lambda 2$ are being fed in opposite directions) a plurality of further network elements connected to subscribers for forwarding upstream data from the subscribers and for distributing the working signals to the subscribers; (Fig.1, elements 2A, 2B, 2C, 2D, 2E, and 2F)

wherein the central network element, in accordance with portions of the working signals fed into the first and second parts of the ring network, feeds the working signals as protection signals into the respective other part of the ring network; and wherein the further network elements forward the protection signals as far as the respective network element terminating the first and left-hand parts of the ring network, and the protection signals are fed into the respective other terminating network element of the first and second parts of the ring network and are forwarded counter to a transmission direction of the working signals to the central network element. (col. 1, lines 60-67 and col.2, lines 1-7, col. 2, lines 48-51, thereby the reference Cadeddu teaches that half the capacity of both fibers of the two-fiber ring can be dedicated to carry protection signals in any directions, including counter to a transmission direction of the working signals, of the ring and through out the ring.) Although, the reference Cadeddu teaches a node which is configured for signal insertion-extraction (central network element), the reference fails to teach wherein, proceeding from the central network element, the ring network is subdivided into a first part and a second part; wherein the central network element feeds the working signals into the first and second parts of the ring network. The reference Hauris teaches the formation of an arc consisting of a group of elements in the ring network. ("If the ring network is thought of as a circle and if the communicating stations are contiguous, then these stations occupy only an arc on the circle. " (Abstract)). The reference also teaches communication groups that are "nested". The reference defines "Regular nesting (or just nesting) occurs when one group of stations is spatially located entirely within another group. For example,

assuming stations are sequentially numbered clockwise, the Communication Group A consisting of stations 4-5 and 6, is nested within the Communication Group B consisting of stations 1,2,3,4,5,6 and 7. In this situation, as graphically depicted in FIG. 2, Communication Group A (31) is nested within Communication Group B (32). " (Fig.2, col.4, lines 34-46). The reference also teaches that this invention can also find application in any ring-topology network. (col.5, lines 29-33). Thereby, the reference teaches that the portions of the ring network can be "nested" under the "another nest" of the ring network (the ring network is subdivided into a first part and a second part) as shown in Fig. 2 and the working signal communication among the elements can also be limited among the elements of the "nests."(feeds the working signals into the first and second parts of the ring network.). Therefore, it would have been obvious to one having ordinary skill in the art at the time of invention was made to modify Cadeddu by including the applied concept of the formation of an "arc" in the ring network such that the bandwidth can be reassigned to stations which form other, non overlapping arc (the arc that is, by default, formed because of the ring being subdivided into a first and a second part) in case of a failure as evidently taught by the references.

Referring to claim 8,

Keeping in mind the teaching of the reference Cadeddu, the reference fails to teach wherein the network elements terminating the first and second parts of the ring network are designed such that the protection signals previously forward at the further network elements are selected and fed into the respective other terminating network element of the first and second parts of the ring network. In addition to the above, the reference

Hauris also teaches that although the independent groups are formed with assigned bandwidths, as shown in Fig.4, elements 51 and 53, outside the arc, such as for communications between the elements 51 and 53, the bandwidth is still assigned which is not in use. (Fig.4, col. 2, lines 55-56). (the network elements terminating the first and second parts of the ring network are designed such that the protection signals previously forward at the further network elements are selected and fed into the respective other terminating network element of the first and second parts of the ring network.) Therefore, it would have been obvious to one having ordinary skill in the art at the time of invention was made to modify Cadeddu by including the applied concept of the formation of an "arc" in the ring network such that the bandwidth, that is not in use by the arcs, can be reassigned to stations which form other, non overlapping arc (the arc that is, by default, formed because of the ring being subdivided into a first and a second part) in case of a failure as evidently taught by the references.

Referring to claims 9,

The reference Cadeddu teaches in Fig. 2, as the signals $\lambda 1$ (working signal) and $\lambda 2$ (working signal as protection signal- which is identical to $\lambda 1$ (working signal)) are being fed into two different optical carriers, as such, the method taught by Cadeddu inherently employs optical splitters for splitting the signals (optical splitters for splitting the working signals.).

Referring to claim 10,

The reference Cadeddu teaches that the signals $\lambda 1$ and $\lambda 2$ in Fig. 2 passes through nodes 2A, 2F, 2E and 2D, as such, the nodes in the method taught by Cadeddu

inherently employs filters to let the signals of certain bandwidths pass without interception. The reference also teaches multiplexers for joining together different optical signals (col. 2, lines 59-67).

Referring to claims 11 and 12,

The reference Cadeddu teaches a method for distributing data within a ring network (Fig. 1) for feeding in data and for distributing both working signals and protection signals on different transmission paths (Fig.1, elements $\lambda 1$ and $\lambda 2$) and in oppositely directed transmission directions (Fig.1, as shown signals $\lambda 1$ and $\lambda 2$ are being fed in opposite directions) and for forwarding data from subscribers and for distributing the working signals to the subscribers connected to network elements (Fig.1, elements 2A, 2B, 2C, 2D, 2E, and 2F) the method comprising the steps of:

feeding the working signals as protection signals into a respective other part of the ring network; forwarding the protection signals as far as the respective network element terminating the first and second parts of the ring network; feeding the protection signals into the respective other terminating network element of the first and second parts of the ring network; and forwarding the protection signals counter to a transmission direction of the working signals to the central network element. (the reference Cadeddu teaches" at least some of the nodes can comprise signal insertion-extraction devices, col.2, lines 52-53 and col. 1, lines 60-67 and col.2, lines 1-7, col. 2, lines 48-51, thereby the reference Cadeddu teaches that half the capacity of both fibers of the two-fiber ring can be dedicated to carry protection signals in any directions, including counter to a transmission direction of the working signals, of the ring and through out the ring.). The

reference Cadeddu also teaches, " at least some of the nodes can comprise signal insertion-extraction devices, col.2, lines 52-53 (selecting, in the terminating network elements, the protection signals forwarded at the further network elements; and feeding the protection signals into the respective other terminating network element of the first and second parts of the ring.) The reference fails to teach subdividing the ring network into a first part and a second part; and feeding the working signals into both the first and second parts of the ring network. The reference Hauris teaches the formation of an arc consisting of a group of elements in the ring network. ("If the ring network is thought of as a circle and if the communicating stations are contiguous, then these stations occupy only an arc on the circle." (Abstract)). The reference also teaches communication groups that are "nested". The reference defines "Regular nesting (or just nesting) occurs when one group of stations is spatially located entirely within another group. For example, assuming stations are sequentially numbered clockwise, the Communication Group A consisting of stations 4-5 and 6, is nested within the Communication Group B consisting of stations 1,2,3,4,5,6 and 7. In this situation, as graphically depicted in FIG. 2, Communication Group A (31) is nested within Communication Group B (32). " (Fig.2, col.4, lines 34-46). The reference also teaches that this invention can also find application in any ring-topology network. (col.5, lines 29-33). Thereby, the reference teaches that the portions of the ring network can be "nested" under the "another nest" of the ring network (the ring network is subdivided into a first part and a second part) as shown in Fig. 2 and the working signal communication among the elements can also be limited among the elements of the "nests."(feeds the working signals into the first and

second parts of the ring network.). Therefore, it would have been obvious to one having ordinary skill in the art at the time of invention was made to modify Cadeddu by including the applied concept of the formation of an "arc" in the ring network such that the bandwidth can be reassigned to stations which form other, non overlapping arc (the arc that is, by default, formed because of the ring being subdivided into a first and a second part) in case of a failure as evidently taught by the references.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ashok B. Patel whose telephone number is (703) 305-2655. The examiner can normally be reached on 8:00am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John A Follansbee can be reached on (703) 305-8498. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Abp
***

JOHN FOLLANSBEE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100